

Richmond Refinery LPS Bulletin – Reliability (Risk Recognition)



Firewater Leak Erosion at Railroad Track #63



IMPACT ERM Loss #
30355 / Inv # 18065

Location: Richmond Refinery,
Cracking Division, Ammonia
Loading Racks, Track 63

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Water gushing from ground next to tracks



Hole in ground next to tracks caused by leak

Incident Description:

While doing rounds at 6am on 1/17/2012, an LPG Racks Operator saw water gushing out of the ground near a section of railroad tracks next to the NH3 loading facility.

The operator notified the HO, STL and OA of the situation. The group analyzed the potential risks. Based on the proximity of the leak to Track #63, they decided to halt rail traffic until civil engineers could evaluate its integrity.

The leaking water was isolated and the hole was pumped empty. It became apparent that the track support had been compromised and repairs would be needed prior to resuming rail car movements.

Investigation Findings:

- 1) The fire water leak was caused by a failure at a welded flange.
- 2) The crack was caused by significant soil settlement at the location of the failure.
- 3) The leak had also caused hydraulic erosion of the railroad bed.
- 4) Hydraulic erosion had removed the supporting soil underneath the tracks.

What Worked Well:

Excellent use of the following tools by the operator prevented a potentially serious incident:

- 1) Used 4 senses to detect water coming from underground
- 2) Loss Prevention Self-Assessment (LPSA) was used to recognize what could go wrong.
- 3) Took necessary actions to prevent a potentially serious incident.

Recommendation:

- 1) Continue to recognize and take action on abnormal conditions using the LPS tools available to us.

LPSA: All The Time!

Tenets of Operations DISPLAYED

Tenet 8: Always address abnormal conditions

Tenet 10: Always involve the right people in decisions that affect people and equipment

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